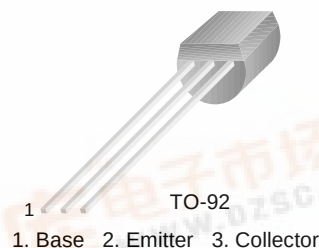




KSP24

VHF Transistor



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	30	V
I_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation ($T_a=25^\circ\text{C}$)	350	mW
	Derate Above 25°C	2.8	mW/ $^\circ\text{C}$
T_J	Junction Temperature	135	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55~150	$^\circ\text{C}$
$R_{TH(j-a)}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C/W}$

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}$, $I_E=0$	40			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}$, $I_B=0$	30			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}$, $I_C=0$	4.0			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=15\text{V}$, $I_E=0$			50	nA
h_{FE}	DC Current Gain	$V_{CE}=10\text{V}$, $I_C=8\text{mA}$	30			
f_T	Current Gain Bandwidth Product	$V_{CE}=10\text{V}$, $I_C=8\text{mA}$, $f=100\text{MHz}$	400	620		MHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		0.25	0.36	pF
G_{CE}	Conversion Gain (213 to 45MHz)	$V_{CC}=20\text{V}$, $I_C=8\text{mA}$ Oscillator Injection=150mV	19	24		dB
G_{CE}	Conversion Gain (60 to 45MHz)	$V_{CC}=20\text{V}$, $I_C=8\text{mA}$ Oscillator Injection=150mV	24	29		dB

Typical Characteristics

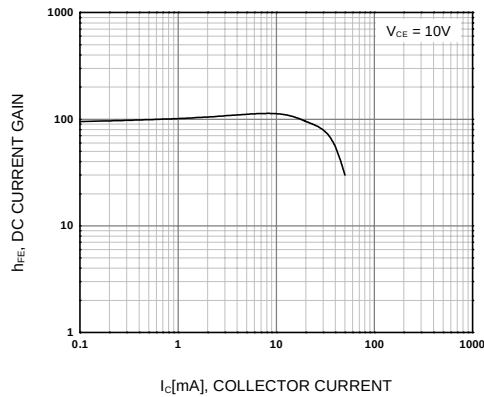


Figure 1. DC current Gain

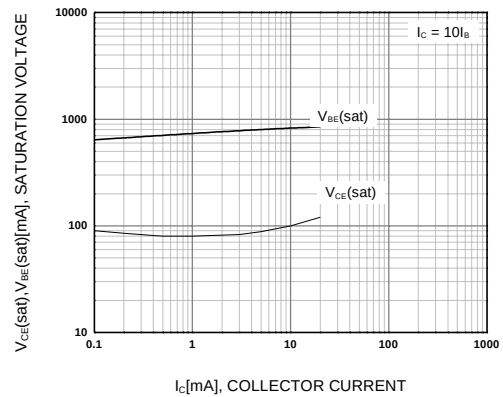


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

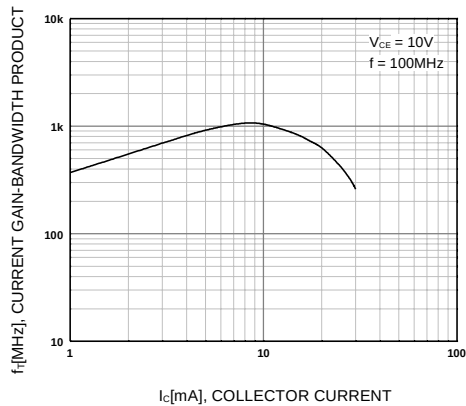


Figure 3. Current Gain Bandwidth Product

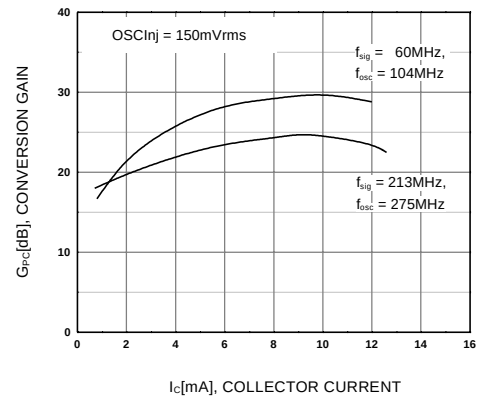


Figure 4. Conversion Gain versus Collector Current

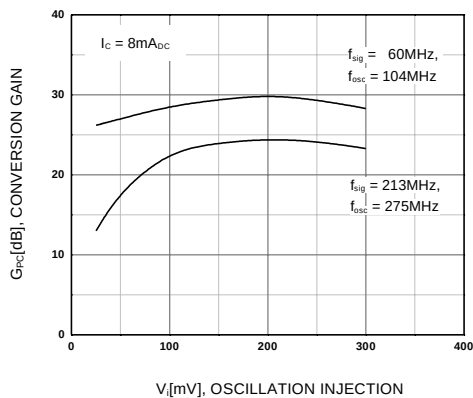


Figure 5. Conversion Gain versus Injection Level

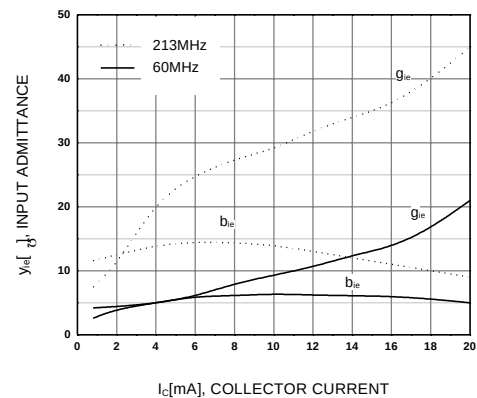


Figure 6. Input Admittance

Typical Characteristics (Continued)

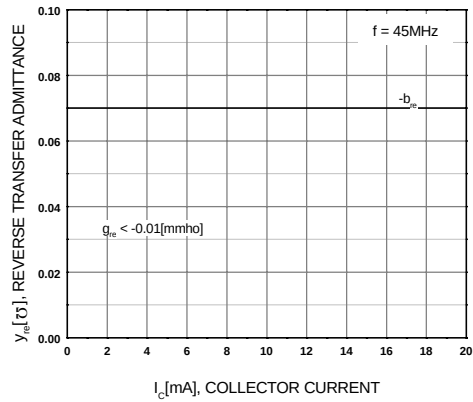


Figure 7. Reverse Transfer Admittance

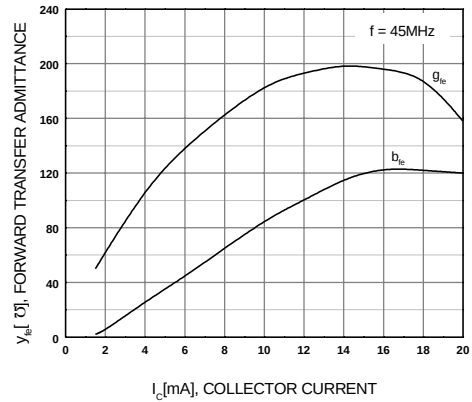


Figure 8. Forward Transfer Admittance

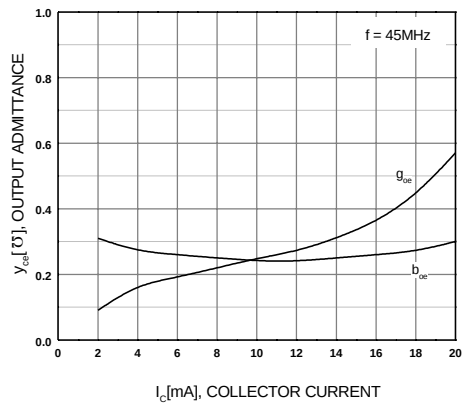
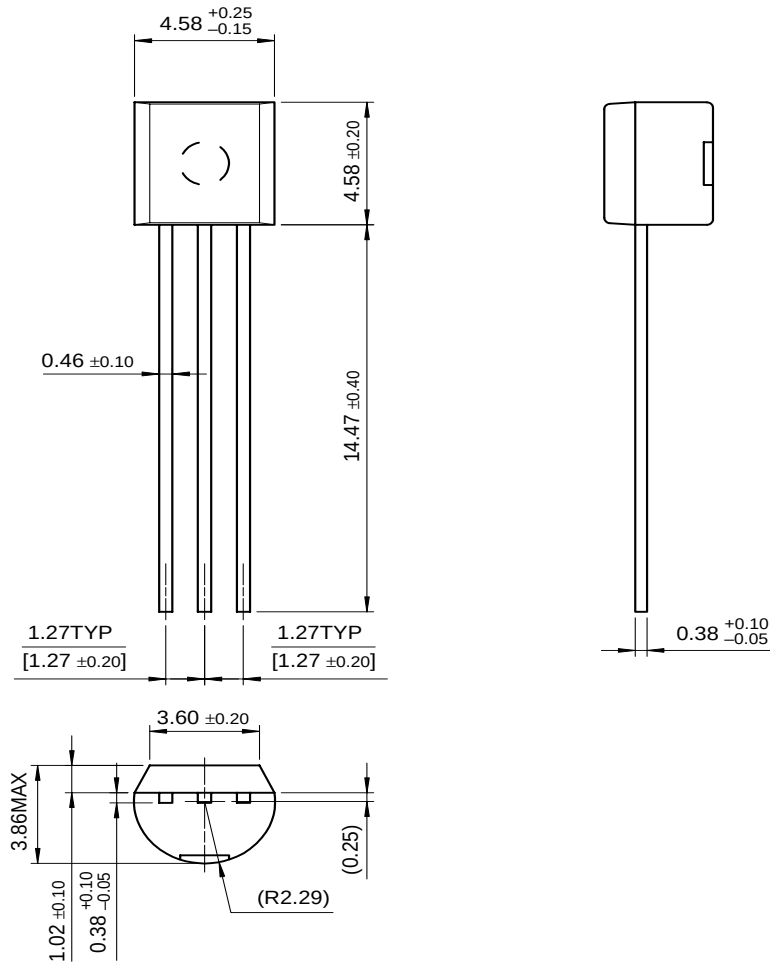


Figure 9. Output Admittance

Package Dimensions

TO-92



Dimensions in Millimeters

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